

No. 613,701.

Patented Nov. 8, 1898.

W. H. MATHER.  
WHEEL HUB.

(Application filed Mar. 28, 1898.)

(No Model.)

Fig. 1.

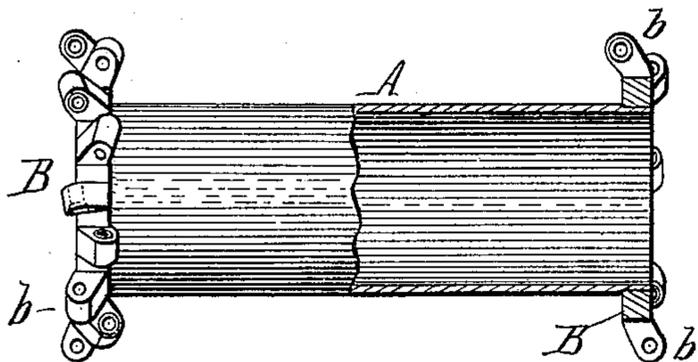


Fig. 2.

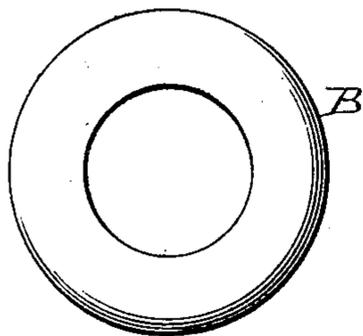


Fig. 3.



Fig. 4.

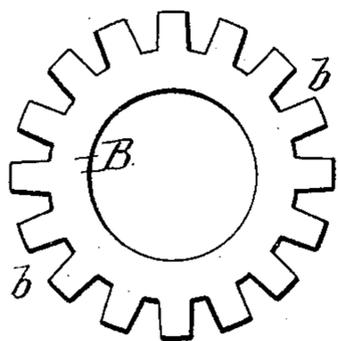
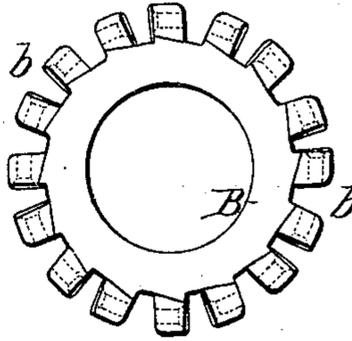


Fig. 5.



Fig. 6.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. MATHER, OF CLEVELAND, OHIO.

## WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 613,701, dated November 8, 1898.

Application filed March 28, 1898. Serial No. 675,370. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. MATHER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and useful Improvement in Wheel-Hubs, of which the following is a specification.

This invention relates to the hubs of wheels having wire spokes which are attached at their inner ends to projecting flanges on the ends of the hub, and more particularly to wheel-hubs having flanges provided with perforated radial lugs for receiving tangent spokes with straight ends.

The object of my invention is the production of a hub of this kind which has its lugs so arranged that the intersecting spokes clear one another for preventing wear and rattling of the same and which is light in construction, cheaply manufactured, and neat in appearance.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of my improved hub. Figs. 2 and 3 are detached face and edge views, respectively, of the blank from which the spoke-flange may be constructed, showing the form thereof after the first punching operation. Figs. 4 and 5 are similar views of the blank after the second operation. Fig. 6 is a detached face view of the finished spoke-flange.

Like letters of reference refer to like parts in the several figures.

A is the body of the hub, which consists, preferably, of a piece of steel tubing of the proper length.

B B are the hub-flanges, mounted rigidly on the ends of the hub and preferably shrunk thereon. Each of these flanges is provided with projecting radial lugs *b*, separated by intervening spaces and each having in its outer portion a hole or perforation for receiving the end of one of the spokes, these holes being arranged tangentially to the flange, as shown. Each flange is provided with a single circumferential row of such lugs, and the bases of the lugs are arranged in line or in the same circumferential plane, while the outer perforated portions of the same are

offset alternately in opposite directions, as shown in Fig. 1, so that the lugs project obliquely outwardly from the base-line and alternately in opposite directions. By this arrangement the spoke-holes of the adjacent lugs are staggered or located out of line with each other, which permits the spokes to clear one another in passing them through the lugs. In order to prevent the intersecting spokes from touching each other, so as to avoid rattling and singing of the same, and also to avoid bending of the spokes at the lugs, the offset perforated portions of the lugs are slightly twisted or set at an angle to the plane of the hub-flanges, as shown in Fig. 6. By providing the hub-flanges with a single row of lugs offset in the manner described the hub-flanges can be made considerably narrower than a flange having two rows of lugs with the perforated ends as well as the bases of the lugs of the same row arranged in circumferential alinement, thus obtaining much lighter hub-flanges and reducing the weight of the hub correspondingly.

My improved hub-flanges can also be cheaply produced by punching the same out of steel. In making the flanges of sheet metal the metal blank is first punched into the form of a flat ring with a rounded outer edge, as shown in Figs. 2 and 3, after which recesses are punched in the edge of the ring to form the spoke-lugs, as shown in Figs. 4 and 5. The lugs are then bent or offset alternately in opposite directions, so as to project obliquely outwardly from the ring, and set at the proper angle, as shown in Figs. 1 and 6, and they are then perforated. The finished flanges are finally shrunk upon the tube or hub-body A, thus completing the hub.

My improved hub is not only comparatively light and inexpensive, but the peculiar arrangement of its spoke-lugs renders the same very neat and attractive in appearance.

I claim as my invention—

1. A wheel-hub having the perforated spoke-lugs of each annular row arranged with their bases in the same circumferential base-line around the hub and projecting obliquely outwardly and alternately in opposite direc-

tions from said circumferential base-line, substantially as set forth.

2. The combination with a wheel-hub, of spoke-flanges, each composed of a ring secured to said hub and formed with perforated spoke-lugs having their bases arranged in the same circumferential base-line around said ring and projecting obliquely outwardly and

alternately in opposite directions from said ring, substantially as set forth. 10

Witness my hand this 7th day of March, 1898.

WILLIAM H. MATHER.

Witnesses:

BENJ. F. BARRY,  
JAMES D. CHANEY.